CLAIMS

What is claimed is:

1.   A method comprising:

capturing a first two-dimensional image of an object;

causing a relative motion between the object and a field of view of a capturing device to expose a different aspect of the object to the capturing device;

capturing a second two-dimensional image of the object; and

deriving a first three-dimensional representation of the object from the first and second two-dimensional images.

2.   The method of Claim 1 further comprising:

creating a second three-dimensional representation by an alternative method; and

combining elements of the first three-dimensional representation with elements of the second three-dimensional representation to improve quality.

3.   The method of Claim 1 further comprising:

capturing with the capturing device an intensity gradient based three-dimensional representation of the object.

4.   The method of Claim 1 wherein the capturing device comprises a linear image sensing array.

5.   A method comprising:

capturing a first three-dimensional representation of a portion of an object using a first capture method;

capturing a second three-dimensional representation of a portion of the object using a second capture method; and

combining elements from the first and second three-dimensional representation to improve quality.

6.   The method of Claim 5 wherein at least the first capture method uses active ranging and at least the second capture method uses passive imaging.

7.   The method of Claim 6 wherein the first capture method is intensity gradient ranging and wherein the second capture method is stereoscopy.

8.   An apparatus comprising:
       a digitizer capable of using any of at least two capture methods to capture a three-dimensional representation of at least a portion of an object.

9.   The apparatus of Claim 8 further comprising:
       a processor to combine elements from three-dimensional representations captured with at least two captured methods to improve quality.

10.   The apparatus of Claim 8 wherein at least a first capture method uses active ranging and at least a second capture method uses passive imaging.

11.   The apparatus of Claim 10 wherein the first capture method is intensity gradient ranging and wherein the second capture method is stereoscopy.

12.   The apparatus of Claim 8 wherein the digitizer comprises:
       an image sensing array (ISA) to capture image data in a first mode and tilt data in a second mode; and
       a gravitational orientation unit (GOU) responsive to a relative orientation of gravity to alter light falling on the ISA in relation to the relative orientation of gravity.

13.   The apparatus of Claim 12 wherein the GOU comprises:
       a pendulum having a reflective element mounted thereon.

14.   The apparatus of Claim 13 further comprising:
       a light emitting diode (LED) mounted to cast light on the reflective element when the LED is on.

15.   The apparatus of Claim 8 wherein the digitizer comprises:
       an image sensor array (ISA) to capture three-dimensional data about an object;
       a lens/aperture assembly having a plurality of lens/aperture combinations; and
       a controller to automatically select a suitable lens/aperture combination based on at least a distance of the object from the ISA.

16.   The apparatus of Claim 15 wherein each lens/aperture combination is a lens barrel.

17. The apparatus of Claim 8 wherein the digitizer comprises:

a shaft;

a housing;

a bearing mounted to rotate relative to the shaft;

an image sensing array (ISA) coupled to the housing; and

a spring to bias the shaft relative to the housing, such that successive captures by the image sensing array are consistently aligned with respect to one another.

18. The apparatus of Claim 17 comprising a bias spring along each bearing axis having a tolerance above a threshold.